

STANFORD UNIVERSITY SCHOOL OF MEDICINE

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Dear Dennis:

I much prefer dialogue to "intellectual masturbation", and I am pleased that you sent me copies of your correspondence with Langlykke. Your letter raises a number of different questions, and I am not sure I can deal satisfactorily with all of them in one letter.

As to his specific question, I would have to say that I do not think the CPC can add very much useful to the advice that NASA now receives, which, in my view is not bad. I have to add that part of my reason for this conclusion is that the Society is so hopelessly divided already on questions like BW research; and I doubt if it could reach a helpful consensus on this one.

I can't help but feel that you are not well-informed about my own position about back-contamination from the moon -- which differs enough from Alexander's to have been severely criticized by ~~him~~ him. So I am enclosing some notes on that score. As to Mars, I must only say that we would be foolish to take any dogmatic position when we are so ignorant; and the remedy is to learn more before intransigent political issues become entangled with the scientific ones.

The quarantine exercise was educational precisely because it showed how difficult it was to cover all the bets, and how difficult to avoid innumerable skips.

About BW, you may again be misinformed about my own views. Beyond that, I hope that you follow through on your conviction that the psychological aspects of germ warfare are the most effective. I wish I could believe that but never mind, if you do, you ought to press this argument to help limit BW work which is now undertaken as a serious military ~~xxxx~~ prospect, and to open it up to public view so as to minimize its fear-generating aspects. (I am not worried about the direct consequences of US BW research; I am deeply concerned about the unintended side-effects: mutual escalation of BW development by the great powers; showing the smaller ones how to get started in it; the demoralization of education potentially directed to mass death via the health professions; and ghastly mistakes that are inevitable in a security-bound system.) If we do become properly germ-conscious, we may yet tool up to protect ourselves from the next major pandemic.

Just what were you thinking of in your reference to polio? The ubiquitous contamination by SV-40? The Cutter affair?

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About the Biology of pathogenicity -- well send me American chestnuts. More seriously, you know the argument cuts both ways. Mammals have evolved a lysozyme, which works against the cell walls of a great many bacteria. I

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don't want our species to be the experimental animal in which it is discovered that the Martian bugs have independently discovered the O-group mucopolysaccharide or dextran for their cell surfaces. As you point out, terrestrial life has evolved a mutual coadaptation: but the species who didn't, aren't here to tell us why; and even those who did, paid a price through natural selection we would not want to repeat, if we have the wit to avoid it.

BW is for this reason much more important than planetary infection. It would be a remarkable coincidence if Mars had evolved the fittest anti-human pathogen. Here, one of our own students may be doing just that precisely through the insight we have taught him about genetic manipulation and the biochemistry of the immune reaction. Hadn't we better be germ-conscious?

Finally, back to Apollo-- the quarantine does seem ridiculous. But I am happier that the NASA did after all make some effort -- short of prejudicing the astronauts' survival, given they were going to be sent at all -- rather than rely upon my personal judgment on an issue of importance to the whole species. If they are going to err, I would rather they take the ~~wise~~ side of unnecessary "foolishness" when these kinds of stakes are at issue.

Joshua Lederberg